

Examining decision making in primary care for anti-diabetic prescribing

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Abstract

Introduction: Despite clinical guidelines, choosing treatments to add-on for patients inadequately controlled on metformin for type 2 diabetes (T2D) can be challenging.

Objective: To examine factors influencing decision-making in primary care for anti-diabetics prescribed as add-on to metformin.

Methods: We undertook a retrospective cohort-study using primary care data (2007-2016) to estimate prevalence ratios (PR) for demographic and clinical factors strongly associated with prescribing of particular treatments.

Results: We identified 32,793 T2D patients commencing add-on therapy to metformin: 20,905 commenced sulphonylureas, 7,488 on gliptins, 2,336 on thiazolidinediones, 984 on insulins, 605 on GLP-1 and 475 on SGLT-2. Patients prescribed sulphonylureas were on average older (59.8±12.1 years). More women were prescribed insulin (57%) and more men, thiazolidinediones (62%). Those with history of cardiovascular disease at add-on initiation were 4% more likely to receive sulphonylureas (PR=1.04, 95%CI:1.02-1.07) and 22% less likely to receive insulin (PR=0.78, 95%CI:0.65-0.94). Patients with history of severe mental illness were 85% more likely to be prescribed insulins (PR=1.85, 95%CI:1.35-2.52), whereas patients with history of retinopathy were 20% more likely to receive thiazolidinediones (PR=1.20, 95%CI:1.10-1.30). For each 1% increase in HbA1c, the probability of receiving sulphonylureas increased by 4% (PR=1.04, 95%CI:1.03-1.04). For each unit increase in BMI, the probability of receiving GLP-1 (PR=1.15, 95%CI:1.14-1.16) and SGLT-2 increased (PR=1.08, 95%CI:1.07-1.09).

Conclusions: Patients with a history of CVD or higher HbA1c were more likely to be prescribed sulphonylureas, with SMI were more likely to be prescribed insulins and with higher BMI more likely to be prescribed SGLT-2 inhibitors and GLP-1 analogues.

Patient and Public Involvement (PPI)

The Lay ADvice on Diabetes and Endocrine Research (LADDER) Panel based in Sheffield provided PPI input into this project. This consists of a panel made up of patients, carers and people with an interest in diabetes or an endocrine condition. They discussed the entire project proposal provided them to them in lay language and provided in depth feedback on the project – in terms of core aims, objectives and methodology employed while also identifying areas for research not previously considered. They have also kindly agreed to aid with dissemination of findings when project is complete.